# Standard Manufacturing Range

## Permissible range for hot-finished manufacturing (ASTM A312TP304/L)

| Outside diameter | | | Wall thickness | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Inch | 0.109 | 0.120 | 0.133 | 0.134 | 0.140 | 0.145 | 0.154 | 0.179 | 0.191 | 0.200 | 0.203 | 0.216 | 0.218 | 0.226 | 0.237 | 0.250 | 0.258 | 0.276 | 0.280 | 0.281 | 0.300 | 0.318 | 0.337 | 0.344 | 0.358 | 0.375 | 0.382 | 0.400 | 0.432 | 0.436 | 0.438 | 0.500 | 0.531 | 0.552 | 0.562 | 0.600 | 0.625 | 0.674 | 0.719 | 0.750 | 0.864 | Inch |
| NPS | Inch | mm | 2.77 | 3.05 | 3.38 | 3.40 | 3.56 | 3.68 | 3.91 | 4.55 | 4.85 | 5.08 | 5.16 | 5.49 | 5.54 | 5.74 | 6.02 | 6.35 | 6.55 | 7.01 | 7.11 | 7.14 | 7.62 | 8.08 | 8.56 | 8.74 | 9.09 | 9.52 | 9.70 | 10.16 | 10.97 | 11.07 | 11.13 | 12.70 | 13.49 | 14.02 | 14.27 | 15.24 | 15.88 | 17.12 | 18.26 | 19.05 | 21.95 | mm |
| 1 | 1.315 | 33.40 | 10S | | 40S | | | | | 80S | | | | | | | | 160 | | | | | | | | | XXS | | | | | | | | | | | | | | | | | | 33.40 |
| 1 1/4 | 1.660 | 42.16 | 10S | | | | 40S | | | | 80S | | | | | | | 160 | | | | | | | | | | | XXS | | | | | | | | | | | | | | | | 42.16 |
| 1 1/2 | 1.900 | 48.26 | 10S | | | | | 40S | | | | 80S | | | | | | | | | | 160 | | | | | | | | XXS | | | | | | | | | | | | | | | | 48.26 |
| 2 | 2.375 | 60.33 | 10S | | | | | | 40S | | | | | | 80S | | | | | | | | | | | 160 | | | | | | XXS | | | | | | | | | | | | | | 60.33 |
| 2 1/2 | 2.875 | 73.03 | | 10S | | | | | | | | | 40S | | | | | | | 80S | | | | | | | | 160 | | | | | | | | XXS | | | | | | | | | | 73.03 |
| 3 | 3.500 | 88.90 | | 10S | | | | | | | | | | 40S | | | | | | | | | 80S | | | | | | | | | | 160 | | | | | XXS | | | | | | | | 88.90 |
| 3 1/2 | 4.000 | 101.60 | | 10S | | | | | | | | | | | | 40S | | | | | | | | 80S | | | | | | | | | | | | | | | | | | | | | | 101.60 |
| 4 | 4.500 | 114.30 | | 10S | | | | | | | | | | | | | 40S | | | | | | | | 80S | | | | | | | | 120 | | 160 | | | | | | XXS | | | | | 114.30 |
| 5 | 5.563 | 141.30 | | | | 10S | | | | | | | | | | | | | 40S | | | | | | | | | 80S | | | | | | 120 | | | | | 160 | | | | XXS | | 141.30 |
| 6 | 6.625 | 168.28 | | | | 10S | | | | | | | | | | | | | | | 40S | | | | | | | | | | 80S | | | | | | 120 | | | | | 160 | | | XXS | 168.28 |

## Permissible range for cold-finished manufacturing (ASTM A312TP304/L)

| Outside diameter | | | Wall thickness | | | | | | | | | | | | | | | | | | |